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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,711	10/17/2003	Hiroshi Okano	442.1033-D	8824

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EXAMINER	
JIANG, CHEN WEN	
ART UNIT	**PAPER NUMBER**
3744	

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/686,711	OKANO ET AL.	
	Examiner	Art Unit	
	Chen-Wen Jiang	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-15,19,23 and 24* is/are pending in the application.

4a) Of the above claim(s) *24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-15,19 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/862,221.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Newly amended claim 24 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Applicant elected Fig.12 in the Restriction/Election mailed 12/30/2005. Claim 24 does not read on Fig.12.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 24 has been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 9,10,12,13,14,15,19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belding et al. (U.S. Patent Number 5,727,394) in view of Macriss et al. (U.S. Patent Number 3,844,737).

In regard to claims 9,10,12 and 14, Belding et al. disclose an air conditioning system with an indirect evaporative cooler. Referring to Figs.1-4, the system comprises a desiccant wheel 8, a sensible heat exchanger 22 with two passages, water spray 60, air supply 28 and air return 32. Belding et al. disclose the invention substantially as claimed. However, Belding et al. do not disclose return air passes the sensible heat exchanger. Macriss et al. disclose the return air can

be used in the sensible heat exchanger in the same field of endeavor for the purpose of optional heat exchange medium. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Belding et al. with a return air through the sensible heat exchanger in view of Macriss et al. so as to have optional heat exchange medium. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Belding et al. disclose "it is preferred to use air directly exiting the desiccant wheel". The reasoning is the dryer the air, the more cooling can be achieved. Belding et al. also disclose "portion of the process air directed along line 20 can include the purge air", (col.6, lines 26-37). Therefore, the combination is reasonable.

In regard to claim 13, the nozzle spray is well known in the prior art.

In regard to claims 19 and 23, the passages of the heat exchange element are isolated since it is indirect heat exchanger.

In regard to claim 15, Macriss et al. discloses honeycomb desiccant wheel and the honeycomb has sound absorption property in nature.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belding et al./ Macriss et al. as applied to claim 9 above, and further in view of Niwa et al. (JP 08061090).

Niwa et al. disclose exhaust heat can be used in the regeneration process. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to used exhaust heat in order to save energy.

5. Claims 9-12,14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moratalla (U.S. Patent Number 6,361,588) in view of Guimaraces (U.S. Patent Number 6,044,640).

In regard to claims 9,12,14 and 23, Moratalla discloses an energy transfer system as shown in Fig.5H. The system comprises desiccant dehumidifier, heater 16, sensible heat exchanger with tow passages and evaporative cooling 117. Moratalla discloses the invention substantially as claimed. However, Moratalla does not disclose rotor type dehumidifier. The water is supplied to the passage through the evaporative device. Fig.5K indicates the moisture content in the air stream has been increased. Figs.5A-5F present the air from a second passage is discharged into the atmosphere. Guimaraces discloses rotor type dehumidifier in the same field of endeavor for the purpose of having desiccant wheel. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Moratalla with a rotor dehumidifier in view of Guimaraces so as to use wheel desiccant. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992). In this case, the desiccant dehumidifier of Moratalla and Guimaraces are commercial available dehumidifier and the change of equivalent parts are obvious to one having ordinary skill in the art.

In regard to claim 10, Moratalla discloses stationary sensible heat exchanger.

In regard to claim 11, Guimaraces discloses using combustion turbine exhaust heat.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809. The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Chen-Wen Jiang
Primary Examiner